

L20 ANSWER 2 OF 2 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI

ACCESSION NUMBER: 1991-02357 BIOTECHDS

TITLE: **Protease**-producing microorganism;
thermostable alkaline **protease** preparation from
Nocardiopsis sp.; purification and
characterization

PATENT ASSIGNEE: Snow-Brand-Milk-Prod.

PATENT INFO: JP 02255081 15 Oct 1990

APPLICATION INFO: JP 1989-76421 30 Mar 1989

PRIORITY INFO: JP 1989-76421 30 Mar 1989

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

OTHER SOURCE: WPI: 1990-352502 [47]

AB A new **protease**-producing microorganism is an alkalophilic actinomycete, **Nocardiopsis sp.** OPC-110 (FERM P-1-503), with a cell wall of meso-type III/C model, confirmed by 2,6-diaminopimelic **acid** determination, and phospholipid of the PIII model. The strain originates from soil. The **protease** is purified by acetone precipitation, dialysis, anion-exchange chromatography on DEAE-Sephadex A-50 and cation-exchange chromatography on CM-Sephadex CL-6B. The **protease** has the following characteristics: a mol.wt. of 21,000 (SDS-PAGE); an optimum pH of 10-12 (on casein as a substrate); an optimum temp. of 60-70 deg; stability up to 50 deg at pH 10 for 30 min, and complete inactivation at 70 deg; residual activity above 30% at pH 4-6 and 60 deg for 30 min, and inactivation at pH 10; stabilization by calcium ions; and inhibition by PCMB and EDTA. The **protease** is a useful thermostable alkaline **protease**. (4pp)

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(FILE 'HOME' ENTERED AT 13:58:10 ON 25 APR 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
LIFESCI' ENTERED AT 13:58:51 ON 25 APR 2002

L1 349244 S PROTEASE?
L2 6016 S ACID A)STABLE
L3 76 S L1-A L2
L4 0 S MYOCARDIOSIS
L5 1 S MYOCARDIOSIS
L6 699 S MYOCARDIOSIS
L7 55 S L1 AND L6
L8 1 S L1 AND L7
L9 43516 S ANIMAL (W)FEED?
L10 1 S L9 AND L7
L11 1 S COMPOSITION?
L12 2805615 S COMPOSITION?
L13 11 S L12 AND L7
L14 2 DUP REM L13 (13 DUPLICATES REMOVED)
L15 291 S L6 (A) (SP. OF ALFA)
L16 22 S L15 AND L7
L17 2 DUP REM L16 (14 DUPLICATES REMOVED)
L18 0 S L6 (A) (REF:18262)
L19 1 S L17 AND ACID
L20 1 DUP REM L19 (0 DUPLICATES REMOVED)
E SJOGHOLM C/AU
L21 12 S E3
L22 13 S E4
L23 22 S L21 OR L22
L24 1 S L7 AND L23
E GJESTERGAARD P R/AU
L25 5 S E5
L26 25 S L23 OR L25
L27 5 S L1 AND L26
L28 5 DUP REM L27 (0 DUPLICATES REMOVED)
L29 0 S L28 AND L15
L30 4 S L28 AND L2
L31 4 DUP REM L30 (0 DUPLICATES REMOVED)

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 NEWS 7 Mar 11 TOXLIT no longer available
 NEWS 8 Mar 11 TECTHERMO no longer available
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 NEWS 17 Apr 12 BIOSIS Gene Names now available in TOXCENTER
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 NEWS EXPRESS February 1 CURRENT WINDOWS VERSION IS V6.1d,
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FILE 'METHUEN, EUGENE, BLOOD, PROTEINS, POLYMERASE, HEMOLYSIN, MYIS, LEPIDOPTER' ENTERED AT 13:58:51 ON 03 APR 2018

[illegible]

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L10 1 19 AND 17

=> d all

L10 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2002 ACS
AIJ 2001:597756 HCAPLUS
DIJ 135:152033
TI Use of acid-stable **proteases** in **animal feed**
IN Oestergaard, Peter Rahbek; Stoeholm, Carsten
PA F Hoffmann-La Roche A.-G., Switz.
SO PCT Int. Appl., 49 pp.
CODEN: PEXRD2
DT Patent
LA English
IC ICM A23K01:165
CO 17-12 (Food and Feed Chemistry)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001081276	A2	20010816	WO 2001-EP1153	20010205
	WO 2001081276	A3	20020221		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BE, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DS, EE, ES, FI, GE, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, ME, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AS, AY, BG, KZ, MD, RU, TJ, TM			
	FW:	GH, GM, KE, LS, MW, MC, SD, SL, SE, TE, US, ZW, AT, BE, CH, CY, IE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MF, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 2001086797	A1	20011004	US 2001-779323	20010208
PHAI	DK 2000-201	A	20000208		
	US 2000-183133P	P	20000317		

AB Disclosed are acid-stable **proteases** homologous to those derived from strains of the genus **Nocardiopsis**, their use in **animal feed**, feed-additives and feed compns. contg. such **proteases**, and methods for the treatment of vegetable proteins using such **proteases**.

ST **protease Nocardiopsis animal feed**
Vegetable protein

IT Feed

Nocardiopsis
(acid-stable **Nocardiopsis proteases** in **animal feed**)

IT Vegetable

(proteins; treatment with proteinases in manufg. feed)

IT Proteins, general, biological studies

RI: FFD (Food or feed use); BIOC (Biological study); USES (Uses)
(soybean; **animal feed** manuf. with proteinases and
proteinase preparation)

TI Use of acid-stable **proteases** in **animal feed**

IN Oestergaard, Peter Rahbek; Stoeholm, Carsten
PA F Hoffmann-La Roche A.-G., Switz.
SO PCT Int. Appl., 49 pp.
CODEN: PEXRD2
DT Patent
LA English
IC ICM A23K01:165
CO 17-12 (Food and Feed Chemistry)
FAN.CNT 2

=> d his

(FILE 'HOME' ENTERED AT 13:58:10 ON 25 APR 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
LIFESCI' ENTERED AT 13:58:51 ON 25 APR 2002

L1 349244 S PROTEASE?
L2 6016 S ACID(A)STABLE
L3 76 S L1(A)L2
L4 1 S NOCARDIOSIS
L5 1 S NOCARDIOSIS
L6 694 S NOCARDIOSIS
L7 95 S L1 AND L6
L8 1 S L2 AND L7
L9 43550 S ANIMAL (W)FEED?
L10 1 S L9 AND L7

=> s compoaction?

L11 1 COMPOSITION?

=> s composition?

L12 2805615 COMPOSITION?

=> s l12 and l7

L13 22 L12 AND L7

=> dup rem l13

PROCESSING COMPLETED FOR L13

L14 9 DUP REM L13 (13 DUPLICATES REMOVED)

=> d l-9 ikib ak

L14 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:527756 HCAPLUS

DOCUMENT NUMBER: 135:152030

TITLE: Use of acid-stable **proteases** in animal feed

INVENTOR(S): Cestergaard, Peter Rahbek; Sjoeholm, Carsten

PATENT ASSIGNEE(S): F Hoffmann-La Roche A.-G., Switz.

SOURCE: PCT Int. Appl., 42 pp.

CODEN: PEXXPD

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001056276	A2	20010816	WO 2001-EP1153	20010205
WO 2001056276	A3	20020221		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

DE, DK, DM, FI, FR, GB, GR, HU, IL, IN, IT, JP, KR, KZ, LI, LU, MC, MG, MK, MN, MU, NL, NO, NZ, OM, PA, PE, PG, PH, PL, PT, RU, SA, SE, SG, SI, SK, SL, SM, SN, SR, ST, SV, SW, SY, TD, TH, TJ, TM, TR, TT, UA, UG, UZ, VC, VE, VI, VN, YU, ZA, ZM, ZW

LAST NAME: [REDACTED]
 FIRST NAME: [REDACTED]
 OTHER NAME: [REDACTED]
 ADDRESS: [REDACTED]

The producing strain is *N. dassonvillei* NRRL 18350, NRRL 18364, NRRL 18342, or a mutant. The enzyme may also hydrolyze cell walls of *Micromonospora kristinae*. The enzyme may be used in a surfactant **composition** with a *Bacillus* sp. alkaline **protease** (with at least 200 U bacteriolytic activity/g preparation and 0.3-3.0 Anson units **protease**/g). The enzyme is produced in submerged culture in the presence of C- and N-sources, and is recovered from the culture broth. A method for reducing body odor of clothes involves washing or rinsing clothes in water containing at least 1,000 U bacteriolytic enzyme preparation. In an example, NRRL 18342 was grown in 50 ml culture medium containing 20 g/l maltodextrin M-100, 10 g/l soybean meal, 5 g/l yeast extract and 2 g/l NaCl (pH 7.0) at 30 deg for 24 hr. The lytic activity against *S. aureus* was 16.2 U/ml. (9pp)

L14 ANSWER 4 OF 9 MEDLINE DUPLICATE 2
 ACCESSION NUMBER: 94127130 MEDLINE
 DOCUMENT NUMBER: 94127130 PubMed ID: 7764689
 TITLE: Purification and characterization of alkaline serine **protease** from an alkalophilic *Streptomyces* sp.
 AUTHOR: Yum D Y; Chung H C; Bai D H; Oh D H; Pa S H
 CORPORATE SOURCE: Department of Food and Biotechnology, College of Engineering, Yonsei University, Seoul, Korea.
 SOURCE: BIOSCIENCE, BIOTECHNOLOGY, AND BIOCHEMISTRY, (1994 Mar) 58 (3): 470-4.
 PUB. COUNTRY: Japan
 LANGUAGE: English
 FILE SEGMENT: B
 ENTRY MONTH: 199406
 ENTRY DATE: Entered STN: 19950809
 Last Updated on STN: 20000303
 Entered Medline: 19940607

AB SAP, an extracellular alkaline serine **protease** produced by *Streptomyces* sp. YSA-130, was purified to homogeneity by CM-Sephadex column chromatography and crystallization. The enzyme was a monomeric protein with a molecular weight of 19,000 as estimated by SDS-PAGE and gel filtration. The amino acid **composition** and amino-terminal sequence of SAP were similar to those of other bacterial serine **proteases**, i.e., *Streptomyces griseus* **proteases** A and B, *Lysobacter enzymogenes* alpha-lytic **protease** and *Nocardioopsis dassonvillei* subsp. *prasina* OPC-210 alkaline serine **protease** NLP 1. The optimum temperature and pH for the enzyme activity were 30 degrees C and 11.5. The enzyme was stable up to 50 degrees C, and between pH 4 and 10. The activity was inhibited by Ag⁺, Hg²⁺, Co²⁺, sodium dodecyl sulfate, N-bromosuccinimide, diisopropyl phosphorocfluoridate (DFP), 2,3-butanedione, 5,5'-dithiobis-(2-nitrobenzoic acid) (DTNB), iodoacetate, N-ethylmaleimide (NEM), phenylmethanesulfonyl fluoride (PMSF), and phenylglyoxal.

L14 ANSWER 5 OF 9 BIOSIS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1994:127130

COMPET: 1994:127130
 DOCUMENT NUMBER: 1994:127130
 ENTRY: 19940607

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9313193	A1	19930709	WO 1992-DK383	19921118
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 517734	A1	19941005	EP 1993-902091	19921118
EP 517734	B1	19960909		
R: AT, BE, DE, DK, ES, FR, GB, IT, NL				
AT 171912	E	19941915	AT 1993-902091	19921118
ES 1124301	T3	19941201	ES 1993-902091	19921118
US 5811332	A	19941922	US 1994-111903	19940424
PRIORITY APPLN. INFO.:			WO 1991-DK406	19911120
			WO 1992-DK383	19921118

AB **Proteases** derived from members of the genus **Nocardiopsis** show better stability than other detergent **proteases** in the presence of bleaching systems comprising an enzyme exhibiting oxidase activity and/or an enzyme exhibiting peroxidase activity and H₂O₂ or a precursor of H₂O₂.

L14 ANSWER 6 OF 9 BIOTECHECS COPYRIGHT 2001 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 1993-01169 BIOTECHECS

TITLE: Detergent additive containing cellulase and specific **protease**; useful as laundry surfactant

PATENT ASSIGNEE: Novo-Nordisk
PATENT INFO: WO 9218599 12 Oct 1992
APPLICATION INFO: WO 1992-DK116 10 Apr 1992
PRIORITY INFO: DK 1991-737 22 Apr 1991
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 1992-182091 [46]

AB Surfactant additives or **compositions** contain a cellulase (EC-3.2.1.4) and a **protease** which is more specific than *Bacillus lentus* serine **protease**. The **protease** is subtilisin (EC-3.4.21.14) Novo (or its variants), a **protease** from *Nocardiopsis dassonvillei* NRRL 19133, a serine **protease** specific for glutamic acid and aspartic acid from *Bacillus licheniformis*, or a trypsin (EC-3.4.21.4)-like **protease** from *Fusarium* DSM 2675. The cellulase is derived from a *Humicola*, *Fusarium*, *Myceliophthora*, *Thermomonospora*, *Bacillus* or *Streptomyces* sp. It is preferably immunoreactive with an antibody raised against a 43 kDa cellulase of *Humicola insolens* DSM 1911, and is most preferably this enzyme itself; the specification includes the sequence 13-5 amino acids of the enzyme and of the DNA that encodes it. The surfactant may also contain a lipase (EC-3.1.1.3), peroxidase (EC-1.11.1.7) and/or an amylase. The surfactant contains 0.001-1.0 mg of cellulase and 0.001-1.0 mg of **protease**/g of additive. The **proteases** are less active against the cellulase than previously used **proteases** so that the storage stability of the cellulase is improved. 15pp

PATENT ASSIGNEE: Novo-Nordisk
PATENT INFO: WO 9218599 12 Oct 1992

DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 1991-238012 [32]

AB A lytic enzyme preparation (I) comprises a bacteriolytic enzyme (II) produced by *Nocardiopsis dassonvillei* 3102-3 (NRRL 18349), 3119-6 (NRRL 18350) and D38-3 (NRRL 18364) which is able to hydrolyze *Micrococcus sedentarius*, *Pseudomonas aeruginosa*, *Micrococcus kristinae* and *Staphylococcus aureus* cell walls. (I) preferably also contains an *Bacillus* sp. alkaline **protease**. A process for producing (II) comprises cultivating a (II)-producing strain of *Nocardiopsis* under aerobic conditions in a culture medium containing assimilable sources of C, N and P, and then recovering (II) from the culture broth. (II) has a mol.wt. of 14,000 or 16,000 and an isoelectric point of 8.3 or 9.5. Also claimed are biologically pure cultures of the *N. dassonvillei* strains. (I) is used in detergents or in rinse **compositions** to remove the odor of dirty clothes, as a body deodorant, food preservative or a disinfectant in food processing, for water treatment, disinfection of hospital instruments, lysis of biomass in activated sludge, for sludge dewatering, or for protoplast production. It may also be used for cell lysis for recombinant protein purification. (26pp)

L14 ANSWER 3 OF 9 BIOTECHNIS COPYRIGHT 2001 THOMSON DEERWENT AND ISI

ACCESSION NUMBER: 1992-03489 BIOTECHNIS

TITLE: Purification and characterization of two types of alkaline serine **proteases** produced by an alkalophilic actinomycete;

chymotrypsin-like serine **protease** NDP-I,
suktilisin-like serine **protease** NDP-II
production by *Nocardiopsis dassonvillei* subsp.
prasina and characterization (conference paper)

AUTHOR: Tsujibo H; Miyamoto K; Inamori Y; Hasegawa T

LOCATION: Osaka University of Pharmaceutical Sciences, 10-65, Kawai 2-chome, Matsubara, Osaka 580, Japan.

SOURCE: J.Pharmacobiodyn.; (1991) 14, 12, s-142

CODEN: JOFHDQ

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An interesting alkalophilic actinomycete isolated from soil, *Nocardiopsis dassonvillei* subsp. *prasina* OPC-310, produced 2 types of alkaline **proteases**. **Proteases** NDP-I and NDP-II were purified from the culture filtrate and characterized. Purified NDP-I and NDP-II were homogeneous (SDS-PAGE) and had mol.wt. values of 21,100 and 30,100 and pI values of 6.4 and 3.8, respectively. NDP-I had an optimum pH of 11.1 and optimum temp. of 70 deg, while NDP-II activity was optimal at pH 11.3 and 60 deg. NDP-I was stable at pH 4-8 up to 60 deg and NDP-II was stable at pH 6-12 up to 50 deg. NDP-I and NDP-II were characterized as a chymotrypsin (EC-3.4.21.1)-like serine **protease** and a sukkilisin (EC-3.4.21.14)-like serine **protease**, respectively, on the basis of amino acid **compositions** and partial amino acid sequences. The partial amino acid sequences of NDP-II exhibited striking homology (65%) with that of aqualysin-I. This is the first report on the isolation of alkalophilic actinomycetes producing alkaline **proteases**.

ACCESSION NUMBER:

DOCUMENT NUMBER:

NUMBER:

ABSTRACT:

KEYWORDS:

CLASSIFICATION:

NUMBER:

KEYWORDS:

CLASSIFICATION:

NUMBER:

proteases

Nocardiopsis

AUTHOR: Tsujiho H; Miyamoto K; Hasegawa T; Inamori Y
 CORPORATE SOURCE: Osaka University of Pharmaceutical Sciences, Japan.
 SOURCE: AGRICULTURAL AND BIOLOGICAL CHEMISTRY, (1990 Aug) 54 (8)
 1177-9.
 Journal code: AMA; 0370452. ISSN: 0002-1369.
 PUB. COUNTRY: Japan
 Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: B
 ENTRY MONTH: 12-105
 ENTRY DATE: Entered STN: 19950909
 Last Updated on STN: 20000303
 Entered Medline: 19910508

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FILE 'MEDLINE, EMBASE, BIOSIS, BICTECHDS, SCISEARCH, HCAPLUS, NTIS,
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L1 349244 S PROTEASE?
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 L4 1 S NICAMIPOSIS
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 L6 632 S NICARDIPOSIS
 L7 53 S L1 AND L6
 L8 1 S L2 AND L7
 L9 43556 S ANIMAL (W)FEED?
 L10 1 S L9 AND L7
 L11 1 S COMPCATION?
 L12 2805615 S COMPOSITION?
 L13 1 S L12 AND L7
 L14 2 DUP REM L13 (13 DUPLICATES REMOVED)

= s 16 (A) (sp. or alba)
 L15 201 L6 (A) (SP. CR ALBA)

= s 115 and 17
 L16 1 L15 AND L7

= dup rem 117
 PROCESSING COMPLETED FOR L16
 L17 2 DUP REM L16 (14 DUPLICATES REMOVED)

= d 1-8 ikib ab

L17 ANSWER 1 OF 8 MEDLINE DUPLICATE !
 ACCESSION NUMBER: 2002130643 IN-PROCESS
 DOCUMENT NUMBER: 21854941 PubMed ID: 11860399
 TITLE: Purification and characterization of a novel proteinase from *Aspergillus niger*

1 Department of Pharmaceutical Sciences, Osaka University
 University, Suita-shi, Japan. Tel: 06-6879-8211
 JOURNAL: AGRICULTURAL, BIOLOGICAL, AND BIOTECNOLOGY, 1990, 54, 1177-9

Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals
 OTHER SOURCE: GENBANK-AY027776
 ENTRY DATE: Entered STN: 20020229
 Last Updated on STN: 20020229

AB A novel alkaliphilic **Nocardiopsis sp.**, strain TOA-1, was isolated from a tile-joint of a bathroom. Strain TOA-1 produced a variety of alkaline hydrolytic enzymes. An alkaline **protease**, designated NAPase, was purified and characterized. NAPase had a very high keratinolytic activity and high stability under acidic conditions.

L17 ANSWER 2 OF 8 MEDLINE DUPLICATE 2
 ACCESSION NUMBER: 2001061976 MEDLINE
 DOCUMENT NUMBER: 20498785 PubMed ID: 11042393
 TITLE: Comparative characterization of two serine endopeptidases from **Nocardiopsis sp.** NCIM 5124.
 AUTHOR: Dixit V S; Pant A
 CORRELATE SOURCE: Division of Biochemical Sciences, National Chemical Laboratory, 411008, Pune, India.
 SOURCE: BIOCHIMICA ET BIOPHYSICA ACTA, (2000 Oct 18) 1523 (2-3) 261-9.
 Journal code: ADW. ISSN: 0006-3002.
 PUB. COUNTRY: Netherlands
 Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200012
 ENTRY DATE: Entered STN: 20010322
 Last Updated on STN: 20010322
 Entered Medline: 20010322

AB A **protease**-producing, crude oil degrading marine isolate was identified as **Nocardiopsis sp.** on the basis of the morphology, cell wall composition, mycolic acid analysis and DNA base composition. The **Nocardiopsis** produces two extracellular **proteases**, both of which are alkaline serine endopeptidases. **Protease I** was purified to homogeneity by chromatography on CM-Sephadex at pH 8.0 and pH 9.0. **Protease II** was purified using DEAE-cellulose, Sephadex G-50, phenyl-Sepharose and hydroxyapatite chromatography. **Protease I** and **II** had almost similar M(r) of 21 kDa. **Protease I** and **II** (pI of 8.3 and 7.0 respectively with pH and temperature optima for activity between 10.0 and 11.0 and about 60 degrees C. Specific activities were 152 and 14 U/mg respectively on casein. However, **Protease I** was antigenically unrelated to **Protease II**. Both **proteases** were endopeptidases and required extended substrate binding for catalysis. Both **proteases** had collagenolytic and fibrinolytic activity but only **Protease I** had elastinolytic activity. The **proteases** were chymotrypsin-like with respect to their amino acid compositions and N-terminal sequences.

117 ANSWER 2 OF 8 MEDLINE DUPLICATE 2

AB A novel alkaliphilic **Nocardiopsis sp.**, strain TOA-1, was isolated from a tile-joint of a bathroom. Strain TOA-1 produced a variety of alkaline hydrolytic enzymes. An alkaline **protease**, designated NAPase, was purified and characterized. NAPase had a very high keratinolytic activity and high stability under acidic conditions.
 AUTHOR: Dixit V S; Pant A
 CORRELATE SOURCE: Division of Biochemical Sciences, National Chemical Laboratory, 411008, Pune, India.

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200004
ENTRY DATE: Entered STN: 20000505
Last Updated on STN: 20000505
Entered Medline: 20000425

AB An actinomycete isolated from an oil-contaminated marine environment and identified as **Nocardiosis sp.** degraded hydrocarbons and also produced extracellular **protease**. Conditions for crude oil degradation and simultaneous production of extracellular **protease** were studied. An alternative approach for bio-augmented clean-up of oil spills using a micro-organism capable of degrading hydrocarbons and recruiting organic nitrogen by producing **proteases** is reported.

LI7 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:21/217 HCAPLUS
DOCUMENT NUMBER: 131:89194
TITLE: Enzymic Activity of microorganisms isolated from yam bean legume (*Pachyrhizus erosus* L. Urban)
AUTHOR(S): Stamford, Tania L. Montenegro; Araujo, J. Magali; Stamford, N. Pereira
CORPORATE SOURCE: Departamento de Nutricao, Universidade Federal de Pernambuco, Recife, 50670-901, Brazil
SOURCE: Ciencia e Tecnologia de Alimentos (1998), 18(4), 392-395
CODEN: CTALDN; ISSN: 0101-2061
PUBLISHER: Sociedade Brasileira de Ciencia e Tecnologia de Alimentos
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The isolation and identification of microorganisms that produce enzymes of com. interest utilizing tubers of yam bean legume (*Pachyrhizus erosus* L. Urban) was the main objective of this work. Endophytic and epiphytic microorganisms were isolated by micromorphol. observation. The agar diffusion method was used to det. enzymic activity. Sixty-eight isolates from yam bean tubers were cultured at 28.degree. C in solid medium specific to amylase, lipase, **protease** and cellulase for 96 h. The epiphytic microorganisms *Pithomyces* (7.3%), *Aspergillus* (12.2%), *Fusarium* (5.2%) and *Trichoderma* (3.8%) and the endophytic microorganisms *Mucor* (7.1%), *Rhizopus* (10.3%) *Basillus* (12.2%), *Staphylococcus* (10.3%) and **Nocardiosis** (15%) were isolated. Compared to the specific std. culture **Nocardiosis sp.** showed higher lipolytic activity and similar amylolytic activity. *Mucor* sp., *Pithomyces* sp. and *Staphylococcus* sp. produced proteolytic activity lower than the std. culture. No isolate showed cellulolytic activity.

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LI7 ANSWER 5 OF 8 BIOTECHEP COPYRIGHT 2000 THOMSON PERSENT AND ISI

ACCESSION NUMBER: 1999: 21/217 HCAPLUS

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED
DATE 11-11-2001 BY 60322 UCBAW/STP/STP
APPLICATION INFO: WO 1999/000000 1999/000000
1999/000000 1999/000000

OTHER SOURCE: WPI: 1996-309622 [31]

AB A new method for producing wool or animal hair material with improved properties involves plasma treatment (at low temp. via corona discharge or glow discharge) or the Delhey process, followed by treatment with a **protease**. The product has improved shrink-proofing, improved anti-felting properties, improved degree of whiteness, improved dyeability, loss of bundle strength tenacity, improved softness and/or reduced pilling tendency. The **protease** is used for 1-120 min at 21-70 deg or preferably 30-60 or 40-60 deg) in acidic, neutral or alkaline medium, optionally with an anionic, nonionic or cationic surfactant. The enzyme is preferably subtilisin-PB92 (EC-3.4.21.62), subtilisin-309 or subtilisin-147 from *Bacillus licheniformis*, *Bacillus alcalophilus*, *Bacillus cereus*, *Bacillus natto*, *Bacillus vulgatus*, *Bacillus mycoides*, *Tritrachium album*, ***Nocardiopsis dassonvillei***, ***Nocardiopsis* sp.** NRRL 1813, *Aspergillus* sp., *Rhizopus* sp. or *Mucor* sp., or a subtilisin-309 variant with a G195F substitution. The **protease** is used at 1.0-10 w/w, based on wool or hair material. (46pp)

L17 ANSWER 6 OF 8 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 1991-02357 BIOTECHDS

TITLE: **Protease**-producing microorganism;
thermostable alkaline **protease** preparation from
***Nocardiopsis* sp.**; purification and
characterization

PATENT ASSIGNEE: Snow-Brand-Milk-Prod.

PATENT INFO: JP 02235181 15 Oct 1990

APPLICATION INFO: JP 1989-75421 30 Mar 1989

PRIORITY INFO: JP 1989-75421 30 Mar 1989

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

OTHER SOURCE: WPI: 1990-352503 [47]

AB A new **protease**-producing microorganism is an alkalophilic actinomycete, ***Nocardiopsis* sp.** DPC-710 (FERM P-1-808), with a cell wall of meso-type III/C model, confirmed by 2,6-diaminopimelic acid determination, and phospholipid of the PIII model. The strain originates from soil. The **protease** is purified by acetone precipitation, dialysis, anion-exchange chromatography on DEAE-Sephadex A-50 and cation-exchange chromatography on CM-Sephacrose CL-6B. The **protease** has the following characteristics: a mol.wt. of 21,000 (SDS-PAGE); an optimum pH of 11-12 (in casein as a substrate); an optimum temp. of 60-70 deg; stability up to 50 deg at pH 1 for 30 min, and complete inactivation at 70 deg; residual activity above 60 at pH 4-8 and 60 deg for 30 min, and inactivation at pH 10; stabilization by calcium ions; and inhibition by PCMB and EDTA. The **protease** is a useful thermostable alkaline **protease**. (4pp)

L17 ANSWER 7 OF 8 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 1988-08721 BIOTECHDS

TITLE: New strains of ***Nocardiopsis*** producing alkaline
protease;

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 1988-08721

protease

Nocardiopsis

[illegible]

L7 55 S L1 AND L6
 L8 1 S L2 AND L7
 L9 43556 S ANIMAL (W)FEED?
 L10 1 S L3 AND L7
 L11 1 S COMPOSITION?
 L12 2805615 S COMPOSITION?
 L13 1 S L12 AND L7
 L14 9 DUP REM L13 (13 DUPLICATES REMOVED)
 L15 21 S L6 A) (SP. OF ALBA)
 L16 1 S L14 AND L7
 L17 4 DUP REM L16 (14 DUPLICATES REMOVED)

= s l6(a)nrrl18262
 L18 L6(A) NRR18262

= s l17 and acid
 L19 2 L17 AND ACID

= dup rem l12
 PROCESSING COMPLETED FOR L12
 L20 1 DUP REM L19 (9 DUPLICATES REMOVED)

= d 1-2 ibib sk

L20 ANSWER 1 OF 2 MEDLINE
 ACCESSION NUMBER: 0001061976 MEDLINE
 DOCUMENT NUMBER: 00493785 PubMed ID: 11042393
 TITLE: Comparative characterization of two serine endopeptidases from **Nocardiopsis sp.** NCIM 5124.
 AUTHOR: Dixit V S; Pant A
 CORPORATE SOURCE: Division of Biochemical Sciences, National Chemical Laboratory, 411008, Pune, India.
 SOURCE: BIOCHIMICA ET BIOPHYSICA ACTA, (2000 Oct 19) 1523 (2-3) 261-8.
 Journal code: AOW. ISSN: 0006-3002.
 PUB. COUNTRY: Netherlands
 Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 000012
 ENTRY DATE: Entered STN: 20010302
 Last Updated on STN: 20010302
 Entered Medline: 20011228

AB A **protease** producing, crude oil degrading marine isolate was identified as **Nocardiopsis sp.** on the basis of the morphology, cell wall composition, mycolic acid analysis and DNA base composition. The **Nocardiopsis** produces two extracellular **proteases**, both of which are alkaline serine endopeptidases. **Protease I** was purified to homogeneity by chromatography on CM-Sephadex at pH 5.0 and pH 9.0. **Protease II** was purified using DEAE-cellulose, Sephadex G-50, phenyl-Sepharose and hydroxyapatite chromatography. **Protease I** and **Protease II** were characterized by

Protease
 were characterized by substrate specificity. **Protease II** both **proteases** were endopeptidases and required extended substrate binding for activity. Both **proteases** had collagenolytic and fibrinolytic activity but **Protease I** had additional caseinolytic activity. Both **proteases** were inhibited by EDTA, 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide and acid.

LEO ANSWER 2 OF 2 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI

ACCESSION NUMBER: 1991-02357 BIOTECHDS

TITLE: **Protease**-producing microorganism;
thermostable alkaline **protease** preparation from
Nocardiopsis sp.; purification and
characterization

PATENT ASSIGNEE: Snow-Brand-Milk-Prod.

PATENT INFO: JP 02255081 15 Oct 1990

APPLICATION INFO: JP 1989-76421 30 Mar 1989

PRIORITY INFO: JP 1989-76421 30 Mar 1989

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

OTHER SOURCE: WPI: 1990-352502 [47]

AB A new **protease**-producing microorganism is an alkalophilic actinomycete, **Nocardiopsis sp.** DFD-210 (FERM P-1-508), with a cell wall of meso-type III/C model, confirmed by 2,6-diaminopimelic **acid** determination, and phospholipid of the PIII model. The strain originates from soil. The **protease** is purified by acetone precipitation, dialysis, anion-exchange chromatography on DEAE-Sephadex A-50 and cation-exchange chromatography on CM-Sephadex CL-6B. The **protease** has the following characteristics: a mol.wt. of 21,000 (SDS-PAGE); an optimum pH of 10-12 (on casein as a substrate); an optimum temp. of 60-70 deg; stability up to 50 deg at pH 10 for 30 min, and complete inactivation at 70 deg; residual activity above 80% at pH 4-8 and 60 deg for 30 min, and inactivation at pH 10; stabilization by calcium ions; and inhibition by PCMB and EDTA. The **protease** is a useful thermostable alkaline **protease**. (4pp)

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(FILE 'HOME' ENTERED AT 13:58:10 ON 25 APR 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 13:58:51 ON 25 APR 2002

L1 349244 S PROTEASE?
L2 6016 S ACID(A)STABLE
L3 76 S LI(A) L2
L4 1 S NOCARDIOPSIS
L5 1 S NOCARDIOPSIS
L6 299 S NOCARDIOPSIS
L7 55 S L1 AND L6
L8 1 S L2 AND L7
L9 43556 S ANIMAL (W)FEED?
L10 1 S L2 AND L7
L11 1 S COMPOSITION?
L12 2805615 S COMPOSITION?
L13 22 S L12 AND L7
L14 9 DUP REM L13 (13 DUPLICATES REMOVED)
L15

END OF PAGE 1 OF 1

END OF FILE

E4	13	SJOEHELM CARSTEN/AU
E5	1	SJOEHELM ELISABETH/AU
E6	1	SJOEHELM ELISABETH A/AU
E7	1	SJOEHELM EVA/AU
E8	1	SJOEHELM G/AU
E9	1	SJOEHELM GOERAN HENRY/AU
E10	1	SJOEHELM GÖESTA/AU
E11	10	SJOEHELM H/AU
E12	6	SJOEHELM HANS/AU

$$= \cdot s e3$$

L-1 10 "SJOEHCIM 3"/AN

$$= \cdot s e4$$

LEE 19 "SJOEHOLM CARSTEN"/AU

= . s 121 or 132

L. 3 23 L21 18 L22

= d his

(FILE 'HOME' ENTERED AT 13:58:10 ON 25 APR 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BIGTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 13:54:53 ON 25 APR 2002

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L1      349244 S PROTEASEC
L2      6016 S ACID(A) STABLE
L3      76 S L1(A) L2
L4      0 S NITADIEOSIS
L5      1 S NITADIEOSIS
L6      649 S NITADIEOSIS
L7      55 S L1 AND L6
L8      1 S L1 AND L7
L9      43556 S ANIMAL (W) FEEDG
L10     1 S L2 AND L7
L11     1 S COMPOSITIONI
L12     2305615 S COMPOSITIONI
L13     22 S L12 AND L7
L14     9 DUP REM L13 (13 DUPLICATES REMOVED)
L15     221 S L2 (A) (S1, OR ALBA)
L16     21 S L7 AND L12
L17     1 DUP REM L16 (14 DUPLICATES REMOVED)
L18     1 S L6A1NRRL1962
L19     1 S L7 AND ACID
L20     1 DUP REM L19 (1 DUPLICATES REMOVED)
L21     1 S JOEHGLM C/AU
L22     10 S E3
L23     15 S E4
L24     23 S L21 OR L22

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\Rightarrow s 17 and 123

20. Use of stabilized proteases in animal feed
 21. *W. G. Grocholski, University of Guelph, Guelph, Ontario, Canada*

CODEN: PIXXD3

DT Patent
LA English
IC ITM A23K001-165
CC 17-18 (Food and Feed Chemistry)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001058276	A2	20010816	WO 2001-EP1153	20010205
	WO 2001058276	A3	20020211		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CY, DE, DK, DM, DO, EE, ES, FI, GE, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	KW: GH, GM, KE, LS, MW, MC, SD, SL, SE, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, ME, NE, SN, TD, TG				
	US 2001026797	A1	20011004	US 2001-779323	20010208
PRAI	DK 2000-100	A	20000208		
	US 2000-18318P	P	20000217		
AB	Disclosed are acid-stable proteases homologous to those derived from strains of the genus Nocardiopsis , their use in animal feed, feed-additives and feed compns. contg. such proteases , and methods for the treatment of vegetable proteins using such proteases .				
ST	protease Nocardiopsis animal feed vegetable protein				
IT	Feed				
	Nocardiopsis (acid-stable Nocardiopsis proteases in animal feed)				
IT	Vegetable (proteins; treatment with proteinases in manufg. feed)				
IT	Proteins, general, biological studies RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses) (soybean; animal feed manuf. with proteinases and)				
IT	Proteins, general, biological studies RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses) (vegetable; treatment with proteinases in manufg. feed)				
IT	9001-92-7, Protease RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses) (acid-stable proteases in animal feed)				
IT	9331-11-2, .beta. Galactanase 37279-49-1, Xylanase 37341-58-1, Phytase 19346-28-6, Galactanase RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses) (animal feed contg. proteinases and)				

=> e oestergaard p r/au

E1 4 OESTERGAARD P AA/AU
E2 15 OESTERGAARD P B/AU
E3 5 OESTERGAARD P C/AU

E4 4 OESTERGAARD P D/AU
E5 4 OESTERGAARD P E/AU
E6 4 OESTERGAARD P F/AU

=> s e3

L25 5 "OESTERGAARD P R"/AU

=> d his

(FILE 'HOME' ENTERED AT 13:58:10 ON 25 APR 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 13:58:51 ON 25 APR 2002

L1 349244 S PROTEASE?
L2 6016 S ACID(A)STABLE
L3 76 S L1(A)L2
L4 0 S NOCARDIOSIS
L5 1 S NOCARDIOSIS
L6 649 S NOCARDIOSIS
L7 55 S L1 AND L6
L8 1 S L2 AND L7
L9 43556 S ANIMAL (W)FEED?
L10 1 S L2 AND L7
L11 1 S COMPOSITION?
L12 28056.5 S COMPOSITION?
L13 12 S L12 AND L7
L14 2 DUP REM L13 (13 DUPLICATES REMOVED)
L15 201 S L6 (A) (SP. OR ALBA)
L16 23 S L15 AND L7
L17 8 DUP REM L16 (14 DUPLICATES REMOVED)
L18 0 S L6(A)NEEL18262
L19 2 S L17 AND ACID
L20 2 DUP REM L17 (0 DUPLICATES REMOVED)
E SJOEHOLM C/AU
L21 19 S E3
L22 13 S E4
L23 13 S L21 OR L22
L24 1 S L7 AND L23
E OESTERGAARD P R/AU
L25 5 S E3

=> s 123 or 115

L26 25 L23 OR L25

=> s 11 and 126

L27 3 L1 AND L26

=> dup rem 127

PROCESSING COMPLETED FOR L27

L28 3 DUP REM L27 (0 DUPLICATES REMOVED)

=> d 1-5 ibib ab

L28 ANSWER 1 OF 5 BIOTECHDS COPYRIGHT 2002 THOMSON HERWENT AND ISI
ACCESSION NUMBER: 2001-16039 BIOTECHDS

INVENTOR: Oestergaard P R; Sjoeholm C
PATENT AGENT: P. R.
LOCATION: Basel, Switzerland.
PATENT NUMBER: 2001-16039

LANGUAGE: English
OTHER SOURCE: WPI: 2001-488930 [53]

AB The use of at least one stable **protease** (EC-3.4.21.62) in feedstuff where the **protease** has identity of at least 70% to a 198 amino acid sequence (I) and/or a 17 amino acid sequence (II), is claimed. Also claimed are: improving the nutritional value of feedstuff; an animal food-additive; and treatment of vegetable proteins. At least one acid stable **protease** is useful in the preparation of a composition for use in feedstuff. The **protease** has 71% identity to (I) and/or (II). The dosage of the **protease** is 0.01-200 mg. The feed composition is useful for feeding animals, including humans. Animals include ruminants and non-ruminants i.e. monogastric animals i.e. pigs, poultry and fish. The feedstuff comprises phytase, endo-1,4-beta-D-xylanase (EC-3.2.1.8), galactanase and/or beta-glucanase (EC-3.2.1.39). Soybean (Glycine max) is included amongst the vegetable source. (42pp)

L28 ANSWER 2 OF 5 BIOTECNDS COPYRIGHT 2002 THOMSON DEARWENT AND ISI

ACCESSION NUMBER: 2001-16038 BIOTECNDS

TITLE: Use of acid stable **protease** of the subtilisin for producing a food composition;
for use as feedstuff, as a food-additive and in vegetable protein treatment

AUTHOR: Oestergaard P R; Sjoeholm C; Kluenter A

PATENT ASSIGNEE: Roche

LOCATION: Basle, Switzerland.

PATENT INFO: WD 2001098275 16 Aug 2001

APPLICATION INFO: WD 2001-EP1152 5 Feb 2001

PRIORITY INFO: DK 2000-200 8 Feb 2000

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2001-488929 [51]

AB The use of at least one stable **protease** (EC-3.4.21.62) in feedstuff where the **protease** is of the subtilisin family and/or has less than 10% residual activity when inhibited with subtilisin, is claimed. Also claimed are: improving the nutritional value of feedstuff; an animal food-additive; and treatment of vegetable proteins. At least one acid stable **protease** is useful in the preparation of a composition for use in feedstuff. The **protease** is of the subtilisin family and/or 10% residual activity when inhibited with subtilisin. The dosage of the **protease** is 0.01-200 mg/kg of feed. The feed composition is useful for feeding animals, including humans. Animals include ruminants and non ruminants i.e. monogastric animals i.e. pigs, poultry and fish. The feedstuff comprises phytase, endo-1,4-beta-D-xylanase (EC-3.2.1.8), galactanase and/or beta-glucanase (EC-3.2.1.39). Soybean (Glycine max) is included amongst the vegetable source. (63pp)

L28 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001-527756 HCAPLUS

DOCUMENT NUMBER: 135:152939

INVENTOR INFO:

LANGUAGE: English

FAMILY AND PUB. INFO:

WD 2001058275 A2 20010816 WD 2001-EP1153 20010105
WD 2001058275 A3 20020101

W: AE, AG, AL, AM, AN, AP, AS, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CR, CU, CZ, DE, DK, DM, DS, EE, EF, FI, GE, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KS, LC, LK, LR, LS, LT,
LU, LV, MA, MD, ME, MK, MN, MW, MX, MY, NA, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW, AM, AS, BY, EG, EL, MD, RU, TT, TM
RW: GH, GM, KE, LS, MW, MG, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2001016797 A1 20011004 US 2001-779323 20010108
PRIORITY APPLN. INFO.: DK 2100-200 A 20000108
US 2100-183133 P 20000117

AB Disclosed are acid-stable **proteases** homologous to those derived from strains of the genus *Nocardia*, their use in animal feed, feed-additives and feed compns. contg. such **proteases**, and methods for the treatment of vegetable proteins using such **proteases**.

L28 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:597755 HCAPLUS
DOCUMENT NUMBER: 135:180105
TITLE: Use of acid-stable subtilisin **proteases** in animal feed
INVENTOR(S): Oestergaard, Peter Rahbek; Sjoeholm, Carsten
; Klunten, Anna-marie
PATENT ASSIGNEE(S): F Hoffmann-La Roche A.-G., Switz.
SOURCE: PCT Int. Appl., 63 pp.
CODEN: PIXKDE
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WD 2001058275	A2	20010816	WD 2001-EP1152	20010105
WD 2001058275	A3	20020101		

W: AE, AG, AL, AM, AN, AP, AS, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CR, CU, CZ, DE, DK, DM, DS, EE, EF, FI, GE, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KS, LC, LK, LR, LS, LT,
LU, LV, MA, MD, ME, MK, MN, MW, MX, MY, NA, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW, AM, AS, BY, EG, EL, MD, RU, TT, TM
RW: GH, GM, KE, LS, MW, MG, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2001026797 A1 20011004 US 2001-779323 20010108
PRIORITY APPLN. INFO.: DK 2100-200 A 20000108

proteases
acid-stable **proteases**

L28 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:597755 HCAPLUS

INVENTOR(S): **Sjoeholm, Carsten;** Nielsen, Bjarne
 Roenfeldt; Dambmann, Claus
 PATENT ASSIGNEE(S): Novo Nordisk A/s, Den.; Sjoeholm, Carsten; Nielsen,
 Bjarne Roenfeldt; Dambmann, Claus
 SOURCE: PCT Int. Appl., 35 pp.
 CODEN: PINKD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ADM. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9704082	A1	19970206	WO 1996-DK299	19960702
W: AL, AM, AT, AU, BE, BG, BR, BY, CA, CH, CN, CO, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KR, KG, KP, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG RW: KE, LS, MW, SD, SO, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA AU 9065128 A1 19970218 AU 1996-65128 19960702 EP 839187 A1 19960506 EP 1996-924787 19960702 E: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI CN 1123996 A 19930913 CN 1990-126439 19960702 US 5948746 A 19991207 US 1996-7269 19980114 PRIORITY APPLN. INFO.: DK 1996-844 19960719 WO 1996-DK299 19960702				

AB The present invention relates to novel proteolytic enzymes. More specifically, the present invention relates to proteolytic enzymes obtainable from strains of *Amycolata* and *Amycolatopsis*. Moreover the invention relates to a process for the prepn. of the proteolytic enzyme of the invention, as well as detergent additives and detergent compns. comprising the proteolytic enzyme. The **protease** purified from *Amycolatopsis mediterranea* had a mol. wt. of 33 kilodaltons and a pI of 3.1. The enzyme displayed >90% activity at pH 8-11 and had a temp. optimum between 30-45.degree. when detd. on casein substrate. Using glucagon as a substrate, the **protease** showed a preference for cleaving Arg-Arg and Trp-Leu bonds, with weaker activity at Lys-Tyr bonds. Detergent formulations contg. the **protease** are presented.

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(FILE 'HOME' ENTERED AT 13:58:10 ON 25 APR 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BICTECHDS, SCISEARCH, HCAPLUS, NTIS,
 LIFESCI' ENTERED AT 13:58:51 ON 25 APR 2002

L1 349244 S PROTEASE?
 L2 6016 S ACID A STABLE
 L3 76 S LI ALL2

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 L100

L15 201 S L6 (A) (SP. OR ALBA)
 L16 1 S L15 AND L7
 L17 1 DUP REM L16 (14 DUPLICATES REMOVED)
 L18 1 S L6 A:NRRL18262
 L19 1 S L17 AND ACID
 L20 1 DUP REM L19 (0 DUPLICATES REMOVED)
 E SJOEHOLM C/AU
 L21 10 S E3
 L22 13 S E4
 L23 23 S L21 OR L22
 L24 1 S L7 AND L23
 E OESTERGAARD P R/AU
 L25 5 S E3
 L26 15 S L23 OR L25
 L27 5 S L1 AND L26
 L28 5 DUP REM L27 (0 DUPLICATES REMOVED)

=> s 128 and 115

L29 0 L28 AND L15

=> s 128 and 12

L30 4 L28 AND L2

=> dup rem 130

PROCESSING COMPLETED FOR L30

L31 4 DUP REM L30 (0 DUPLICATES REMOVED)

=> d 1-4 ibib ak

L31 ANSWER 1 OF 4 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI

ACCESSION NUMBER: 2001-16039 BIOTECHDS

TITLE: Use of **acid stable protease** for
 producing a food composition;
 for use as feedstuff, as a food-additive and in vegetable
 protein treatment

AUTHOR: Oestergaard P R; Sjoeholm C

PATENT ASSIGNEE: Roche

LOCATION: Basle, Switzerland.

PATENT INFO: WO 2001058276 16 Aug 2001

APPLICATION INFO: WO 2001-EP1153 5 Feb 2001

PRIORITY INFO: DE 2000-10 8 Feb 2000

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2001-438930 [53]

AB The use of at least one stable **protease** (EC-3.4.21.62) in
 feedstuff where the **protease** has identity of at least 70% to a
 183 amino acid sequence (I) and/or a 17 amino acid sequence (II), is
 claimed. Also claimed are: improving the nutritional value of feedstuff;
 an animal food-additive; and treatment of vegetable proteins. At least
 one **acid stable protease** is useful in the
 preparation of a composition for use in feedstuff. The **protease**

The use of at least one stable **protease** (EC-3.4.21.62) in
 feedstuff where the **protease** has identity of at least 70% to a
 183 amino acid sequence (I) and/or a 17 amino acid sequence (II), is
 claimed. Also claimed are: improving the nutritional value of feedstuff;
 an animal food-additive; and treatment of vegetable proteins. At least
 one **acid stable protease** is useful in the
 preparation of a composition for use in feedstuff. The **protease**

acid stable protease

the subtilisin for producing a food composition;
for use as feedstuff, as a food-additive and in vegetable
protein treatment

AUTHOR: Oestergaard P R; Sjoeholm C; Kluentner A
PATENT ASSIGNEE: Roche
LOCATION: Basle, Switzerland.
PATENT INFO: WO 2001058275 16 Aug 2001
APPLICATION INFO: WO 2001-EP1152 5 Feb 2001
PRIORITY INFO: DK 2000-200 8 Feb 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2001-488929 [53]

AB The use of at least one stable **protease** (EC-3.4.21.62) in
feedstuff where the **protease** is of the subtilisin family and/or
has less than 10% residual activity when inhibited with subtilisin, is
claimed. Also claimed are: improving the nutritional value of feedstuff;
an animal food additive; and treatment of vegetable proteins. At least
one **acid stable protease** is useful in the
preparation of a composition for use in feedstuff. The **protease**
is of the subtilisin family and/or 10% residual activity when inhibited
with subtilisin. The dosage of the **protease** is 0.01-200 mg/kg
of feed. The feed composition is useful for feeding animals, including
humans. Animals include ruminants and non-ruminants i.e. monogastric
animals i.e. pigs, poultry and fish. The feedstuff comprises phytase,
endo-1,4-beta-D-xylanase (EC-3.2.1.8), galactanase and/or beta-glucanase
(EC-3.2.1.39). Soybean (Glycine max) is included amongst the vegetable
source. (63pp)

L11 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:597756 HCAPLUS
DOCUMENT NUMBER: 135:152030
TITLE: Use of **acid-stable
proteases** in animal feed
INVENTOR(S): Oestergaard, Peter Rahbek; Sjoeholm, Carsten
PATENT ASSIGNEE(S): F Hoffmann-La Roche A.-G., Switz.
SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXDE
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001058276	A2	20010816	WO 2001-EP1153	20010205
WO 2001058276	A3	20010821		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,

PRIORITY ABST. INFO.: IF A PRIORITY ABST. IS AVAILABLE, IT WILL BE PRINTED HERE.

ABSTRACT: acid stable proteases

proteases.

using such **proteases**.

L31 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:597755 HCAPLUS
DOCUMENT NUMBER: 135:150103
TITLE: Use of **acid-stable** subtilisin
proteases in animal feed
INVENTOR(S): Oestergaard, Peter Rahbek; Sjoeholm, Carsten
; Kluentner, Anna-marie
PATENT ASSIGNEE(S): F Hoffmann-La Roche A.-G., Switz.
SOURCE: PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY APP. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001058275	A2	20010816	WO 2001-EP1152	20010205
WO 2001058275	A3	20020221		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CF, CU, CZ, DE, DK, DM, DO, EE, ES, FI, GE, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NG, NZ, NL, NT, RC, RU,
SD, SE, SG, SI, SK, SL, TH, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW, AM, AZ, BY, KB, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SS, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BG, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2001026727 A1 20011004 US 2001-779323 20010208

PRIORITY APPLN. INFO.: DK 2000-200 A 20000108
US 2000-183133P P 20000117

AB Disclosed are **acid-stable proteases** of the
subtilisin family, their use in animal feed, feed-additives and feed
compos. contg. such **proteases**, and methods for the treatment of
vegetable proteins using such **proteases**.

=> d his

FILE 'HOME' ENTERED AT 13:59:17 ON 25 APR 2002

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
LIFESCI' ENTERED AT 13:58:51 ON 25 APR 2002

L1 349244 S PROTEASEY
L2 6016 S ACID (A) STABLE
L3 76 S L1(A) L2
L4 0 S NOCARDIOPSIS
L5 1 S NOCARDIOPSIS
L6 499 S NOCARDIOPSIS

L11 1 S NOCARDIOPSIS
L12 1 S NOCARDIOPSIS
L13 1 S NOCARDIOPSIS
L14 1 S NOCARDIOPSIS

L18 0 S L5(A)NRRL18262
L19 2 S L17 AND ACID
L20 2 DUP REM L13 (0 DUPLICATES REMOVED)
E SJOEHOLM C/AU
L21 10 S E3
L22 13 S E4
L23 23 S L21 OF L22
L24 1 S L7 AND L23
E OESTERGAARD P R/AU
L25 5 S E3
L26 25 S L23 OF L25
L27 5 S L1 AND L26
L28 5 DUP REM L27 (0 DUPLICATES REMOVED)
L29 0 S L28 AND L15
L30 4 S L28 AND L2
L31 4 DUP REM L30 (0 DUPLICATES REMOVED)

=>

	L #	Hits	Search Text
1	L1	27383	protease\$2
2	L2	107	nocardiopsis
3	L3	19	11 same 12
4	L4	3735	"sp." or alba
5	L5	1	12 adj 14
6	L6	5596	animal adj feed
7	L7	19	11 same 13
8	L8	19	17 same 13
9	L9	1	14 same 13
10	L10	5828	acid adj (resistant or stable)

11 L11 1 15 same 13

	L #	Hits	Search Text
13	L13	0	oesterogaard.in.
14	L14	1	oestergaard.in.

	U	1	Document ID	Issue Date	Pages
1	<input type="checkbox"/>	<input type="checkbox"/>	US 20010026797 A1	20011004	18
2	<input type="checkbox"/>	<input type="checkbox"/>	US 5558640 A	19960924	6

	Title	Current OR	Current XRef
1	Use of acid-stable proteases in animal feed	424/94.6	426/54
2	System for infusion of medicine into the body of a patient	604/67	604/891.1; 607/32

	Retrieval Classif	Inventor	S	C	P	2	3	4	5
1		Sjoeholm, Carsten et al.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2		Pfeiler, Manfred et al.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Image Doc. Displayed	PT
1	US 20010026797	<input type="checkbox"/>
2	US 5558640	<input type="checkbox"/>

	L #	Hits	Search Text
13	L13	0	oesterogaard.in.

	Document ID	Issue Date	Pages	Title
1	US 20010003220 A1	20010614	14	METHOD FOR ENZYMATIC TREATMENT OF WOOL
2	US 20010026797 A1	20011004	18	Use of acid-stable proteases in animal feed
3	US 4927558 A	19900522	22	Proteolytic detergent additive and compositions containing the same
4	US 5312748 A	19940517	13	Protease
5	US 5646028 A	19970708	18	Alkaline serine protease streptomyces griseus var. alkaliphilus having enhanced stability against urea or guanidine
6	US 5705379 A	19980106	14	Nucleotide sequences encoding a thermostable alkaline protease
7	US 5811382 A	19990922	6	Detergent compositions
8	US 5837517 A	19981117	24	Protease variants and compositions

	Document ID	Issue Date	Pages	Title
10	US 6051033 A	20000418	8	Method for enzymatic treatment of wool
11	US 6067315 A	20000711	10	Protease variants
12	US 6099588 A	20000808	10	Method for treatment of wool
13	US 6100080 A	20000808	10	Method for enzymatic treatment of biofilm
14	US 6110884 A	20000829	10	Protease variants
15	US 6140109 A	20001031	7	Method for enzymatic treatment of wool
16	US 6190900 B1	20010228	24	Subtilase variants
17	US 6266129 B1	20010710	13	Method for enzymatic treatment of wool

	Document ID	Issue Date	Pages	Title
19	US 6300116 B1	20011009	35	Modified protease having improved autoproteolytic stability

	Document ID	Issue Date	Pages	Title
1	US 20010026797 A1	20011004	18	Use of acid-stable proteases in animal feed